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APPLICANT : ASAHI GLASS CO LTD;

INVENTOR : ASAI TOMOYUKI;

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TITLE : PRODUCTION OF (DIFLUOROMETHOXY)BENZALDEHYDE COMPOUND

ABSTRACT : PROBLEM TO BE SOLVED: To obtain the subject compound useful as an intermediate for pharmaceuticals and agrochemicals by reacting a hydroxybenzaldehyde compound with chlorodifluoromethane in the presence of water, an organic solvent, a base and a phase-transfer catalyst.

SOLUTION: The objective compound expressed by the formula $\text{HCF}_2\text{O-Ph-CHO}$ can be produced by reacting 1 mol of a hydroxybenzaldehyde compound of the formula HO-Ph-CHO (Ph is a 1-4C alkyl, a 1-4C alkoxy, F, unsubstituted phenylene, etc.), (e.g. p, m or o-hydroxybenzaldehyde) with 1.0-2.0 mol of chlorodifluoromethane in the presence of 50-600 ml of water, 200-1,200 ml, of an organic solvent (e.g. dichloromethane and ethylene glycol dimethyl ether), 2.0-4.0 mol of a base and 2-10 mol.% of a phase-transfer catalyst (preferably a quaternary ammonium salt or a quaternary phosphonium salt) preferably at -20 to +20°C.

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